

Amendment Dated December 20, 2004
Serial No. 09/817,796

IN THE CLAIMS

Claim 1. (Currently Amended) A management system configured to perform operation, administration, and maintenance (OAM) functions for a telecommunications switch, said telecommunications switch having a first network interface card and a first processor card, the management system comprising:

a protocol unit residing on the first processor card for receiving a management request relating to at least one of the OAM functions;

a first request unit residing on the first processor card for creating a first request object in response to the received management request; and

a first action unit residing on the first network interface card for executing the received management request in response to an instruction from the first request object.

Claim 2. (Original) The management system of claim 1 for a telecommunications switch further having a second processor card, the management system further comprising:

a second request unit residing on the second processor card for creating a second request object in response to the received management request,

and wherein,

the protocol unit includes a first resource broker for receiving utilization information on the first and second processor cards from the first and second request units and is operable to select, in dependence upon the utilization information, one of the request units to which to send the received management request.

Claim 3. (Original) The management system of claim 1 for a telecommunications switch further having a second network interface card, the management system further comprising:

a second action unit residing on the second network interface card for executing the received management request in response to an instruction from the first request object,

and wherein,

the first request unit includes a second resource broker for receiving utilization information on the first and second network interface cards from the first and second action units and is operable to select, in dependence upon the utilization information, one of the action units to which to send the instruction.

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Claim 4. (Currently Amended) A management system configured to perform operation, administration, and maintenance (OAM) functions for a telecommunications switch, said telecommunications switch having a distributed computing infrastructure and a plurality of network interface cards and processor cards, the management system comprising:

a protocol unit residing on a first processor card for receiving a management request relating to at least one of the OAM functions;

a first request unit residing on a second processor card for creating a first request object in response to the received management request; and

a first action unit residing on a first network interface card for executing the received management request in response to an execute instruction from the first request object.

Claim 5. (Currently Amended) The management system of claim ~~of~~ 4, further comprising:

a second request unit residing on a third processor card for creating a second request object in response to the received management request,

and wherein,

the protocol unit includes a first resource broker for receiving information on utilization of the second and third processor cards from the distributed computing infrastructure and is operable to select, in dependence upon the processor card utilization information, one of the request units to which to send the received management request.

Claim 6. (Currently Amended) The management system of claim ~~of~~ 5, further comprising:

a second action unit residing on a second network interface card for executing the received management request in response to an execute instruction from the request object of a selected request unit,

and wherein,

the first request unit includes a second resource broker for receiving information on utilization of the first and second network interface cards from the first and second action units and is operable to select, in dependence upon the network interface card utilization information, one of the action units to which to send the execute instruction.

Claim 7. (Currently Amended) The management system of claim ~~of~~ 6, wherein the protocol unit comprises:

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a protocol agent for communicating with a network management system to receive the management request; and

a protocol converter in communication with the protocol agent, the first resource broker, and the selected request unit; and being operable to convert the received management request into a generic switch resource access format and dispatch the converted management request to the selected request unit in response to a dispatch instruction from the first resource broker.

Claim 8. (Currently Amended) The management system of claim ~~ef~~-6, wherein the first action unit comprises:

an action object;

an action object factory in communication with the selected request unit; and

a managed object in communication with the action object,

wherein,

the action object factory is operable to create the action object in response to a create action object instruction from the selected request unit; and

the action object is operable to execute the received management request on the managed object.

Claim 9. (Currently Amended) The management system of claim ~~ef~~-6, wherein the first request unit comprises:

a request object server in communication with the protocol unit;

a first request object in communication with a selected action unit; and

a resource model in communication with the first request object for storing information on attributes of the telecommunications switch,

wherein,

the request object server is operable to create the first request object in response to a create request object instruction from the protocol unit; and

the request object is operable to instruct the selected action unit to create the action object in dependence upon the information stored in the resource model.

Claim 10. (Currently Amended) A method of managing a managed object in a telecommunications switch in response to a management request relating to at least one of an

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operation, administration, and maintenance (OAM) function, the telecommunications switch having a protocol unit and a plurality of request units and action units, the method comprising the steps of:

- a) selecting a request unit in dependence upon information on utilization of the request units;
- b) creating a request object in the selected request unit in response to an instruction from the protocol unit;
- C) selecting an action unit in dependence upon information on utilization of the action units;
- d) creating an action object in the selected action unit in response to an instruction from the request unit; and
- e) executing, by the action object, the management request relating to the at least one OAM function on the managed object.

Claim 11. (Currently Amended) A method of operating a management system for a telecommunications switch, the management system having a protocol unit and a plurality of request units and action units, the method comprising the steps of:

- a) receiving a management request relating to at least one of an operation, administration, and maintenance (OAM) function from a request source;
- b) selecting a request unit in dependence upon information on utilization of the request units;
- C) creating a request object in the selected request unit in response to an instruction from the protocol unit;
- d) selecting an action unit in dependence upon information on utilization of the action units;
- e) creating an action object in the selected action unit in response to an instruction from the request unit; and
- f) executing, by the action object, the management request relating to the at least one OAM function on a managed object of the telecommunications switch.

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Claim 12. (Original) The method of claim 11, wherein the protocol unit includes a first resource broker and the method further includes the step of updating the first resource broker with information on utilization of the selected request unit.

Claim 13. (Original) The method of claim 12, wherein the selected request unit includes a second resource broker and the method further includes the step of updating the second resource broker with information on utilization of the selected action unit.

Claim 14. (Original) The method of claim 13, further including the step of sending a result of execution of the management request to the request source.

Claim 15. (Original) The method of claim 14, wherein the step a) of receiving the management request further comprises converting the format of the management request from a request source format to a management system format, and the step of sending a result further comprises the step of converting the format of the result from the management system format to the request source format.

Claim 16. (New) The management system of claim 1, wherein the telecommunications switch includes a Management Information Base (MIB) containing MIB variables that may be accessed via the management system, and wherein the OAM function of the management request relates to accessing at least one of the MIB variables.

Claim 17. (New) The management system of claim 16, wherein accessing the at least one MIB variable comprises executing at least one of a Get, Get Next, Set, Create, Delete, and Transaction operation.

Claim 18. (New) The management system of claim 17, wherein accessing the at least one of the MIB variables comprises obtaining a value of the at least one of the MIB variables.

Claim 19. (New) The management system of claim 17, wherein accessing the at least one of the MIB variables comprises changing a value of the at least one of the MIB variables.

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Claim 20. (New) The network switch of claim 1, wherein the first network interface card is configured to handle network traffic; and wherein the first processor card is configured to influence operation of the first network interface card.